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IN THE CLAIMS

1. (Previously Amended) Seed of maize inbred line designated PH5DR, representative seed of said line having been deposited under ATCC Accession No. PTA-4525.

2. (Previously Amended) A maize plant, or parts thereof, produced by growing the seed of claim 1.

3. (Cancelled)

4. (Original) A tissue culture of regenerable cells from the plant of claim 2.

5. (Previously Amended) A tissue culture according to claim 4, cells or protoplasts of the tissue culture having been selected from the group consisting of leaves, pollen, embryos, roots, root tips, anthers, silks, flowers, kernels, ears, cobs, husks, and stalks.

6. (Previously Amended) A maize plant regenerated from the tissue culture of claim 4, capable of expressing all the morphological and physiological characteristics of inbred line PH5DR, representative seed of which have been deposited under ATCC Accession No. PTA-4525.

7. (Previously Amended) A method for producing a first generation (F₁) hybrid maize seed comprising crossing the plant of claim 2 with a different parent maize plant and harvesting the resultant first generation (F₁) hybrid maize seed.

8. (Original) The method of claim 7 wherein the inbred maize plant of claim 2 is the female or male parent.

9. (Previously Amended) An F₁ hybrid seed produced by crossing the maize plant according to claim 2 with another, different maize plant.

10. (Original) An F₁ hybrid plant, or parts thereof, grown from the seed of claim 9.

11. (Cancelled)

12. (Cancelled)

13. (Cancelled)

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14. (Cancelled)

15. (Previously Amended) A method for developing a PH5DR-derived maize plant, or parts thereof, in a maize plant breeding program using plant breeding techniques comprising:

- a) obtaining the maize plant, or parts, of claim 2
- b) crossing said maize plant to a different plant; and
- c) growing the seed produced to obtain a PH5DR-derived maize plant, or parts thereof.

16. (Previously Amended) The method of claim 15 wherein plant breeding techniques are selected from the group consisting of: recurrent selection, backcrossing, pedigree breeding, restriction fragment length polymorphism enhanced selection, genetic marker enhanced selection.

17. (Cancelled)

18. (Cancelled)

19. (Cancelled)

20. (Cancelled)

21. (Previously Amended) A maize plant, or parts thereof, having all the physiological and morphological characteristics of inbred line PH5DR, representative seed of said line having been deposited under ATCC accession No. PTA-4525.

22. (Cancelled)

23. (Original) A tissue culture of regenerable cells from the plant of claim 21.

24. (Previously Amended) A tissue culture according to claim 23, cells or protoplasts of the tissue culture having been isolated from a tissue selected from the group consisting of leaves, pollen, embryos, roots, root tips, anthers, silks, flowers, kernels, ears, cobs, husks, and stalks.

25. (Previously Amended) A maize plant regenerated from the tissue culture of claim 23, capable of expressing all the morphological and physiological characteristics of inbred line PH5DR, representative seed of which have been deposited under ATCC Accession No. PTA-4525.

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26. (Previously Amended) A method for producing a first generation (F₁) hybrid maize seed comprising crossing the plant of claim 21 with a different parent maize plant and harvesting the resultant first generation (F₁) hybrid maize seed.

27. (Previously Amended) The method of claim 26 wherein the maize plant of claim 21 is the female or male parent.

28. (Cancelled)

29. (Cancelled)

30. (Cancelled)

31. (Cancelled)

32. (Cancelled)

33. (Cancelled)

34. (Cancelled)

35. (Cancelled)

36. (Cancelled)

37. (Previously Amended) A process for producing inbred PH5DR, representative seed of which have been deposited under ATCC Accession No. PTA-4525, comprising:

(a) planting a collection of seed comprising seed of a hybrid, one of whose parents is inbred PH5DR said collection also comprising seed of said inbred;

(b) growing plants from said collection of seed;

(c) identifying said inbred PH5DR plants;

(d) selecting said inbred PH5DR plant; and

(e) controlling pollination in a manner which preserves the homozygosity of said inbred PH5DR plant.

38. (Original) The process of claim 37 wherein step (c) comprises identifying plants with decreased vigor.

39. (Original) The process of claim 37 wherein step (c) comprises identifying seeds or plants with homozygous genotype.

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40. (Currently Amended) A method for producing a first generation F1 PH5DR-derived maize plant, comprising:

- (a) crossing inbred maize line PH5DR, representative seed of said line having been deposited under ATCC Accession No. PTA-4525, with a second maize plant to yield progeny maize seed;
- (b) growing said progeny maize seed, under plant growth conditions, to yield said first generation F1 PH5DR-derived maize plant.

41. (Currently Amended) [A] The first generation F1 PH5DR-derived maize plant, or parts thereof, produced by the method of claim 40.

42. (Currently Amended) The method of claim 40, further comprising:

- (c) [crossing] selfing or sibbing said first generation F1 PH5DR-derived maize plant [with itself] to yield additional PH5DR-derived progeny maize seed;
- (d) growing said progeny maize seed of step (c) under plant growth conditions, to yield additional PH5DR-derived maize plants;
- (e) [repeating the crossing and growing steps of (c) and (d)] repeatedly selfing said additional PH5DR-derived maize plants for successive generations to generate a further PH5DR-derived maize plant[s].

43. (Currently Amended) The further PH5DR-derived maize plant, or parts thereof, produced by the method of claim 42 wherein said further PH5DR-derived maize plant has at least 50% genetic contribution from inbred maize line PH5DR.

- 44. (Cancelled)
- 45. (Previously Cancelled)
- 46. (Previously Cancelled)
- 47. (Cancelled)
- 48. (Cancelled)
- 49. (Cancelled)

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50. (New) A method of developing a backcross conversion PH5DR maize plant wherein an inbred maize plant PH5DR is crossed to a second maize plant, wherein a trait is backcrossed into said inbred maize plant PH5DR, and wherein said inbred maize plant PH5DR is a recurrent parent.

51. (New) The backcross conversion PH5DR maize plant of claim 50 wherein the trait backcrossed into said inbred maize plant PH5DR confers a trait from a group consisting of herbicide resistance, insect resistance, disease resistance, male sterility, decreased phytate, and waxy starch; and wherein inbred maize plant PH5DR has been used as a recurrent parent at least two times.

52. (New) A method of developing a first generation hybrid maize plant comprising crossing the backcross conversion PH5DR maize plant of claim 51 with a second maize plant.

53. (New) The first generation hybrid maize plant developed by the method of claim 52.

54. (New) A method of developing a transgenic PH5DR maize plant wherein inbred maize plant PH5DR is transformed with a transgene.

55. (New) The transgenic PH5DR maize plant of claim 54 wherein said transgene confers a trait from the group consisting of insect resistance, herbicide resistance, disease resistance, decreased phytate, and male sterility.

56. (New) A method of developing a first generation hybrid plant comprising crossing the transgenic PH5DR maize plant of claim 55 to a second maize plant.

57. (New) The first generation hybrid plant produced by the method of claim 56.